

ESTABLISHMENT OF SOYBEAN PROCESSING INDUSTRIES:

A success story of
Entrepreneurship Development Programme
at ICAR – CIAE, Bhopal



Director

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Preamble

Soybean is an important food commodity on account of its nutritional value and health benefits. It is high in protein, low in fat and carbohydrate and contains no cholesterol. Owing to its amino acids composition, the protein of soybean is called a complete protein. It is an excellent food for babies, children, elderly people and pregnant and lactating women because it contains vegetable protein which is very nutritious and easy to digest. Since it is a rich source of high quality protein at low cost, there is great potential for the utilization of soybean and its products for food, feed, pharmaceutical and industrial applications. Soybean has many health-promoting benefits which includes antioxidant, anti-obesity, anti-diabetic, properties and prevention of osteoporosis and cancers such as breast and prostate cancer. Soybean-based foods have generated much interest because of the evidence that consumption of adequate amount of soybean could lower the risk of chronic diseases such as cardiovascular disease and cancer.

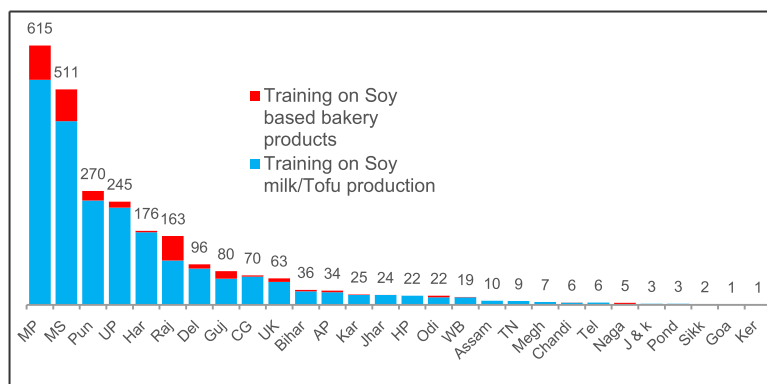
A number of products are prepared from soybean that include soy milk, tofu (soy paneer), soy curd, soy nuts and various bakery based products. The cost of these products are very low and could be utilized in combating the malnutrition by incorporating soy based food products in daily diet.

Entrepreneurship Development Programme

Keeping it into consideration, entrepreneurship development programme (EDP) on soybean processing was started in 1995 at ICAR - Central Institute of Agricultural Engineering (ICAR-CIAE), Bhopal with the sole aim to develop enterprise in the area of soybean processing for livelihood opportunities, employment generation and production of high quality protein products at low cost. The EDP module on 'soy based bakery products and soy snacks' was added in the year 2002. ICAR-CIAE is the only Institute in India that offers EDP on Soybean Processing. The technical guidance and support was also provided to the participants in the establishment of the enterprise and preparation of the produce as and when needed.

Until February 2017, 167 batches (2524 participants) under went EDP, out of which 2206 persons participated on soy milk and soy paneer production and 318 persons on soy based bakery products and soy snacks.

The participants were from all the corners of the country. Maximum number of trainees were from Madhya Pradesh (615) followed by Maharashtra, Punjab, Uttar Pradesh, Haryana, Rajasthan and Delhi.

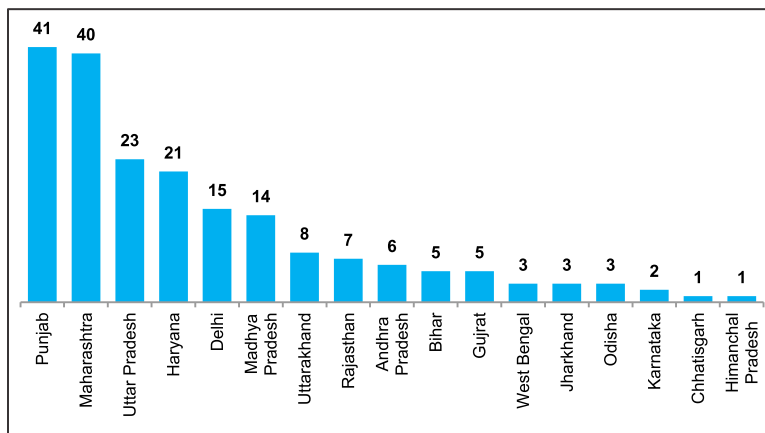


State wise distribution of Trainees (Total number 2524)

Impact of the Entrepreneurship Development Programme

An assessment of impact of the entrepreneurship training programme was carried out that initially included telephonic contact with the trainees and then personal visits of selected production clusters (Madhya Pradesh, Maharashtra, Punjab, Uttar Pradesh, Delhi, Haryana, Uttarakhand, Gujarat, Rajasthan, Bihar and West Bengal) across the country. One hundred ninety eight soybean processing units are currently operational. The units are distributed in different parts of country and includes 17 states, however, maximum 41 unit are located in Punjab

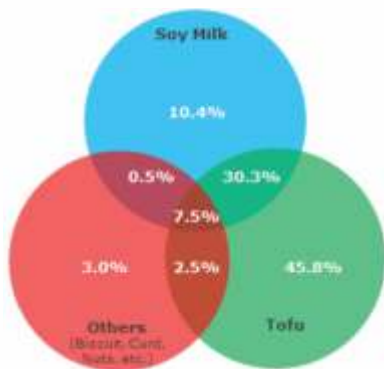
followed by Maharashtra (40 unit), Uttar Pradesh (23 unit), Haryana (21 unit), Delhi (15 unit) and Madhya Pradesh (14 unit). The establishment of units geared up mostly after 2010. Out of total working unit only 36 were established before 2010. 162 units have been established after 2010. The number of trainees also increased after 2008.



State wise distribution of units on Soybean processing

There have been some cases of closure of soy processing units. Approximately 14 % trainees established the enterprise but closed it at later stage due to marketing constraints.

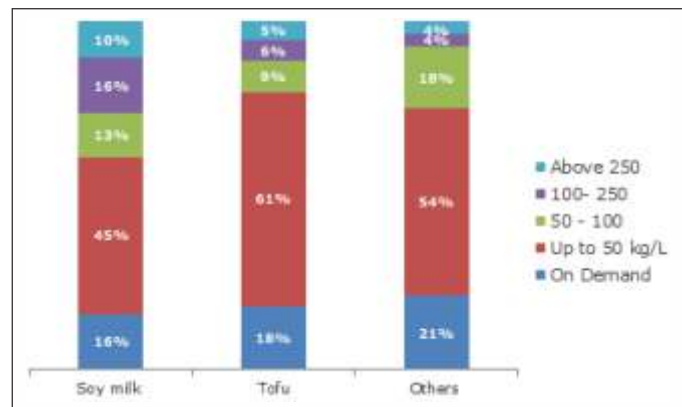
Distribution of soy products manufacturing across working units indicates that 10.4% trainees are involved only in soy milk production whereas 46% are engaged in Tofu production. 30% are producing both soy milk and tofu. Only 3% trainees are involved in producing products other than soy milk and tofu that includes soy curd, soy nuts and soy flour.



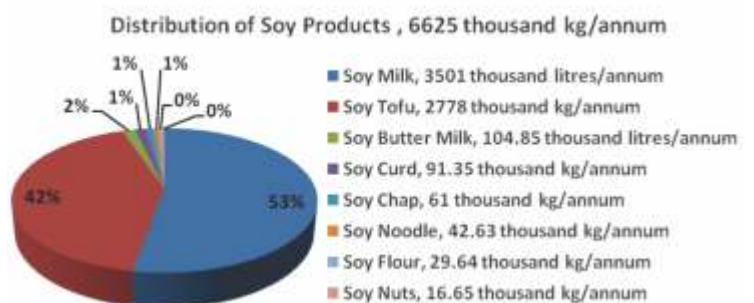
Production of Soy based food products by different trainees

Around 50% trainees are producing around 50 litres of soy milk or 50 kg tofu per day. Most of the trainees producing products more than 250 kg are located in Punjab and Maharashtra. Around 15 percent of trainees manufacture soy milk or tofu on demand especially in marriage season. Annual production of various soy products manufactured by trainees is presented in figure

Based on the information collected the average annual production of Tofu and soy milk is 2700 ton and 3400 kilolitres, respectively.



Quantity of product produced (%) by different trainees



Annual Production of Soy products

Economic impact

Soybean is processed by 198 entrepreneurs across the country to make different products like milk, tofu, flours, nuts, curd, biscuits, Kabab, chap and Halwa etc. Annual working days of these units are 203 while labour employment was analyzed as 4.73/unit. These entrepreneurs are generating employment to the tune of 1.90 lakh man days/annum and provide a monetary benefit of 5.70 crores to 936 workers engaged in running 198 soybean processing units. Annual gross return is Rs 28.18 lakh/entrepreneur with an annual gross expenditure of Rs 17.00 lakh/entrepreneur. Thus, annual net return is realized to an extent of Rs 11.20 lakh/entrepreneur with a BCR of 1.66. The annual gross monetary benefit generated from 198 entrepreneurs is about Rs 56 crores One hundred ninety eight units of soybean processing established across the country are generating employment of more than 1.78 lakh man-days/annum. Total monetary benefit from 198 entrepreneurs is about Rs 51 crore/ annum.

Sum-up:

The soy food based entrepreneurship development training programme organized by ICAR-CIAE since 1995 has enabled establishment of 198 successful enterprises which are significantly contributing to nation's economy as well in combating malnutrition by adding 768 tons of edible low cost protein every year. The economic impact due to these enterprises is presently about Rs. 56 crore per annum and increasing with popularity of soy based food products. Soy based food processing industries operating at cottage to small scale level has been a successful venture in generating income and employment.



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